



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

PRELIMINARY ISSUE

Part #1

D5611-1

Job Sheet 183488

Accounting Job RD17-1048-01



POSITIVE RECALL

EFFECTIVE SEP 19 2018 AUTH 21

RELEASED 9 DATE 13026
9-89

Priority: Medium

@ POU A
EQUIB-317

Part No: D5611-1

Job Qty: 1 ea

Part Name: EC130 Skidtube



Part Weight: 0 lbs

Status: Scheduled

Job Created: 9/19/18

Job Tracking No:

Due Date: 9/28/18

Created By: Marie Lajeunesse

Type: R+D

Description:

Note: D5611 REVA.10 IPP REV:A 18.06.20 NEW ISSUE DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Purchasing	1 pcs		9/28/18	0.00	0.00	Purchasing		SEP 19 2018
120	Packaging	1 pcs		9/28/18	0.00	0.00	Packaging2		SEP 19 2018
130	QC	1 pcs		9/28/18	0.00	0.00	QC6		SEP 19 2018
140	Packaging	1 pcs		9/28/18	0.00	0.00	Packaging3-1		SEP 19 2018
150	QC21-FG	1 Ea		9/28/18	0.00	0.00	QC21		SEP 26 2018

Part Op 110 - Issue P/O to Parker Fab: 040362 - Manufacture D5611-1 as per dwg (Bend,Swag, Remove excess material
Descriptions: after bending) **Ship extrusion D6031-120** ***AS PER DWG NOTE 10, EXTREME CARE MUST BE TAKEN TO
PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE
FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.*** Material release note is required
120 - Ensure material release note is attached

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6031-120	Tube, Seamless	1 Ea (1 ea)	110-Purchasing	511351
D5611-1P	EC130 Skidtube	1 pcs (1 ea)	120-Packaging	511350

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Purchasing	D6031-120	1	40	0
120-Packaging	D5611-1P	1	0	0

Part Specifications

Specifications could not be found.



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Plex 9/19/18 7:42 AM Dart.lajeunesse.marie

Container No: S111353



Part: D5611-1

Job No: 183488

Serial No/Batch: S111353

Revision: A10

Inspector:

Exp Date:

Instructions:

Order: 09/19/18

DQA: _____ Date: _____

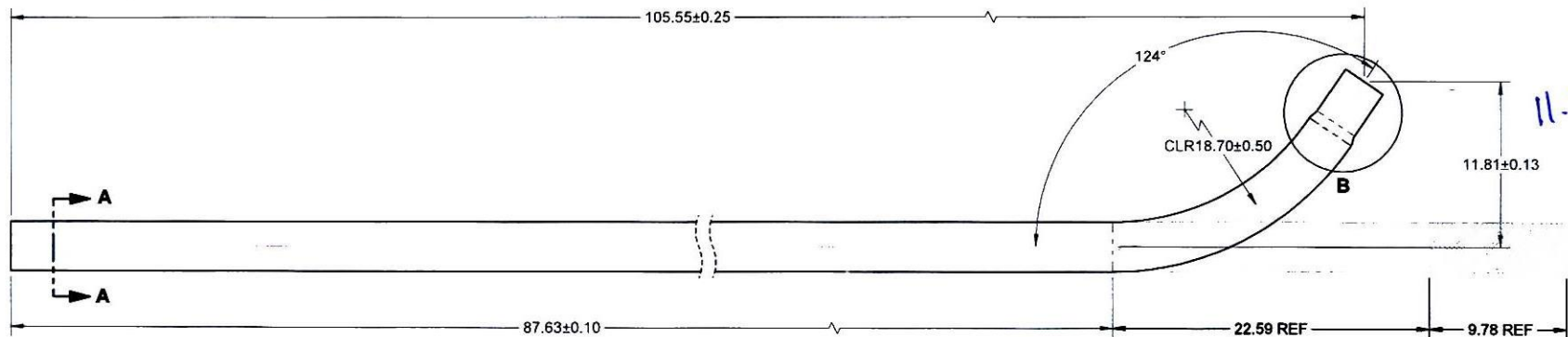


WORK ORDER NON-CONFORMANCE / UPDATE

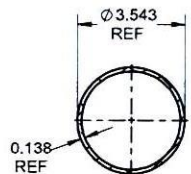
QA Closed: _____ Date: _____

Work Order update only ☐

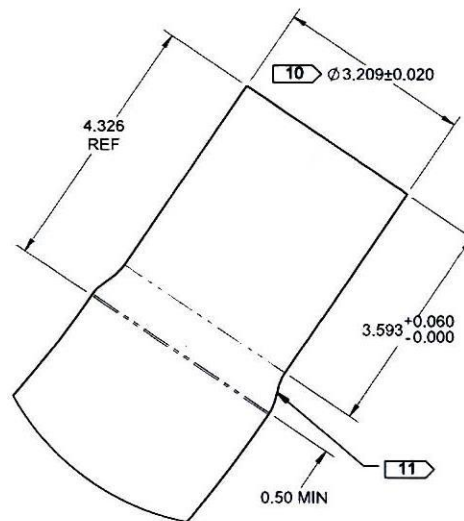
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
		Completed By			
		Lead hand / Supervisor Approval Verification			
		QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



D5611-1 EC130 SKIDTUBE



SECTION A-A
SCALE 2X



DETAIL B
SCALE 4X

NOTES:

- 1) MATERIAL: MAKE FROM D6031-120
STRAIGHT LENGTH = 120.00" (BEFORE BENDING / TRIMMING)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 16.41lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, WRINKLES, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 9) MAXIMUM TUBE FLATTENING DUE TO BENDING IS 2% BASED ON OD.
- 10) SWAGE 3.593 +0.060/-0.000 AT THE BENT END OF THE TUBE TO Ø3.209+/-0.020
- 11) SWAGED TRANSITION MUST BE SMOOTH, GRADUAL, AND WITHOUT VISIBLE DISCONTINUITIES

*Accepted by
N.O.*

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 183488 MJS
 18-05-19

PRELIMINARY ISSUE

A		NEW ISSUE		ZF	18.05.07
REV.		DESCRIPTION		BY	DATE
DESIGN	NO	DART AEROSPACE LTD			
DRAWN	ZF	HAWKESBURY, ONTARIO, CANADA			
CHECKED	NO	DRAWING NO.	REV. A10		
MFG. APPR.	DP	D5611	SHEET 1 OF 1		
APPROVED		TITLE	SCALE		
DE APPR.		EC130 SKIDTUBE	NTS		
DATE	18.05.07	COPYRIGHT © 2018 BY DART AEROSPACE LTD			
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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO040303

Supplier: PAR005-VU
Parker Fabrication Inc
501 East Courtland
Morton, IL 61550-9043 USA
Phone: 309-266-8413
Fax: 309-266-7231

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO040303
PO Date: 6/22/18
Due Date: 9/21/18
Purchase Order Revision: 2
Revision Date: 9/13/18
Ship-To Contact: Hemmerich, Steven
Phone: 613-632-5200 Ext: 281
shemmerich@dartaero.com
Pymt Terms: Net 30
Freight Terms: Collect
Special Comments:

Items

Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1		D5611-1P			EC130 Skidtube First Article Inspection. Expedite charges included in price. Forward quality docs to buyer prior to shipment	Firmed	-	9/21/18	1 pcs	0 pcs	1 pcs	\$502.75/pcs	\$502.75
w/o183493													
Line Item Note Advance notice required for Quality audit.													
1 X	SEP 19 2018				w/o183486	Firmed	-	9/21/18	1 pcs	0 pcs	1 pcs	\$502.75/pcs	\$502.75
1 X	SEP 19 2018				w/o183487	Firmed	-	9/21/18	1 pcs	0 pcs	1 pcs	\$502.75/pcs	\$502.75
1 X	SEP 19 2018				w/o183488	Firmed	-	9/21/18	1 pcs	0 pcs	1 pcs	\$502.75/pcs	\$502.75
1 X	SEP 19 2018				w/o183489	Firmed	-	9/21/18	1 pcs	0 pcs	1 pcs	\$502.75/pcs	\$502.75
1 X	SEP 19 2018				w/o183490	Firmed	-	9/21/18	1 pcs	0 pcs	1 pcs	\$502.75/pcs	\$502.75
1 X	SEP 19 2018				w/o183491	Firmed	-	9/21/18	1 pcs	0 pcs	1 pcs	\$502.75/pcs	\$502.75
1 X	SEP 19 2018				w/o183492	Firmed	-	9/21/18	1 pcs	0 pcs	1 pcs	\$502.75/pcs	\$502.75
Sub Total:									8	0	8		\$4,022.00

Grand Total: \$4,022.00

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 9/19/18 8:08 AM dart.hemmerich.steven



Parker Fabrication, Inc.
501 East Courtland
Morton, IL 61550-9043

Ph: 309.266.8413

Fax: 309.266.7231

ot 2
Pack List

Number: **119663**

Date: 17-Sep-18

Dart Aerospace
1270 Aberdeen St
Hawkesbury, ON K6A 1K7
Canada

Ship To

Steven Hemmerich
Dart Aerospace
1270 Aberdeen St
Hawkesbury, ON K6A 1K7
Canada

Ph: 1 613 632-5200

Ph: 1 613 632-5200

Terms		Ship Via	
		Freight Collect	
Quantity	Description		
8 ea	Part: EC130SKID ✓ EC130 Skidtube rev. A10 SO: 69748	PO: PO040303 ✓	Rev: Line: 001
4 ea	Part: EC130FWD EC130 Fwd X Tube rev. A9 SO: 69748	PO: PO040303	Rev: Line: 002
Thank you for your business!			

DAS
38
9-89



Certificate of Conformance (CoC)

Form F-4003
Page 1 of 1
Last Revised:
3/09/2018

Supplier Name: Parker Fabrication
Supplier Number: _____
Part Description: EC130 Skidtube

Part Number: D5611
Drawing Number: D5611 Revision: A10

Purchase Order #: PO040303
Quantity: 8
Serial Number(s): 207294 (if applicable)
Lot/Heat Number: S078761 (if applicable)

All technical requirements of the contract are satisfied. Quality and performance are in accordance with the contract, the specifications, and all references and associated contractual drawings and documents.

I, as a supplier to Dart Aerospace LTD, acknowledge and certify the material covered under this document is produced in accordance with the following:

- ☒ All Contractual "Flow Down" Requirements
- ☒ Supplier Standards Guide
- ☒ Global Supplier Quality Manual
- ☒ Product Conformance
- ☒ Free of Counterfeit Material

(Acknowledge by marking the boxes)


Signature

Quality Manager
Title

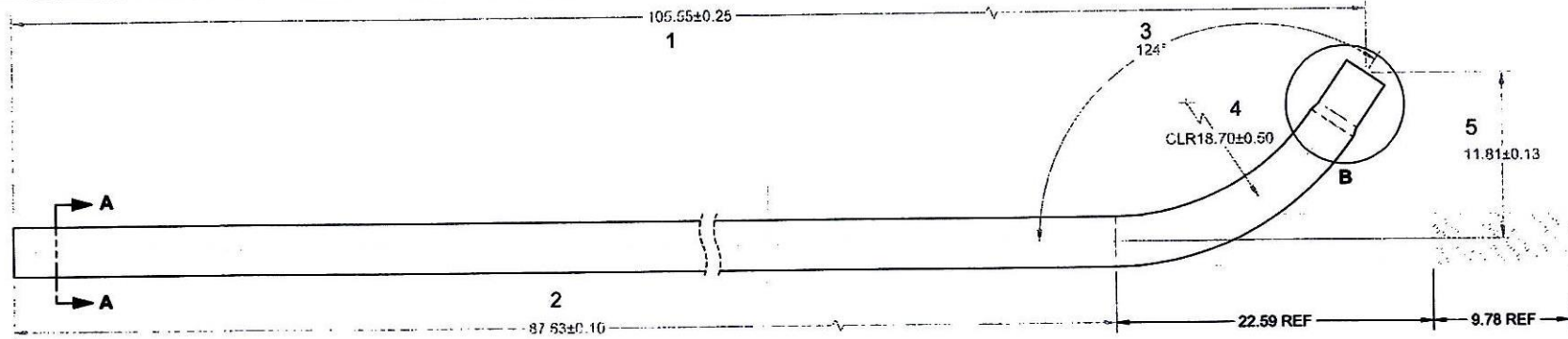
9/17/2018
Completion Date

DAS
38
9-89

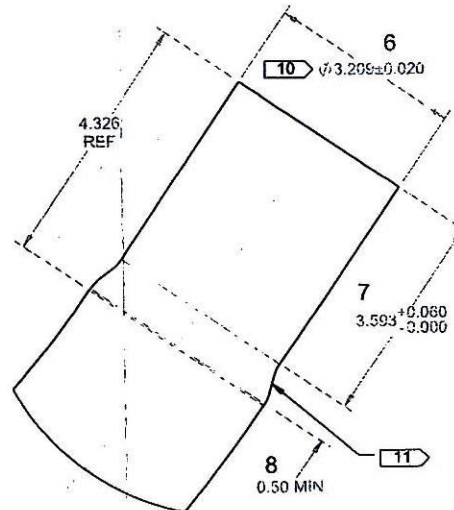
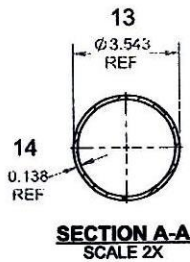
This certifies the parts/items/materials identified above conform to all applicable drawings and/or specifications as evidenced by reports or other documentation on file and all other purchase order and quality requirements have been met.

Production Part Approval Dimensional Test Results

[illegible]



D5611-1 EC130 SKIDTUBE



NOTES:

- 1) MATERIAL: MAKE FROM D6031-120
STRAIGHT LENGTH = 120.00" (BEFORE BENDING / TRIMMING)
- 2) FINISH: NONE
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PRELIMINARY ISSUE

REV.	DESCRIPTION	ZP	BY	DATE
A	NEW ISSUE			18.05.07
DESIGN	NO			
DRAWN	ZF			
CHECKED	NO			
MFG. APPR.	DP			
APPROVED				
DE APPR.				
DATE	18.05.07			

DART AEROSPACE LTD		REV. A10
HAWKESBURY, ONTARIO, CANADA		SHEET 1 OF 1
DRAWING NO. D5611		SCALE
TITLE EC130 SKIDTUBE		NTS
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: <u>183488</u> Part No. <u>D5611-1</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☒ Quality ☐			
Date: <u>18-10-26</u>	Sequence #: <u>130</u>	QTY Affected: <u>1</u>		MRB (QSI042) INSP 12 <u>9/18/10/25</u>	
Description Work Order Deviation D5611-1 was supplied unfired, both aft and fwd ends Swage OD is out of tolerance due to design change after manufacture		Disposition FAI deviations are due to lack of trimming, part will be trimmed on next w/o Acceptable Swage O.D. is acceptable No effect on over geometry or stiffness of assembly		Completed By INSP 12 <u>9/18/10/25</u> Lead hand / Supervisor DAS 9 9-89 <u>18-10-26</u> QC / QA Coordinator DAS 8 9-89 <u>18-10-26</u>	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					